Please replace the paragraph beginning at page 70 line 4, with the following rewritten paragraph:

E4

--The full visibility algorithm: Consider the sequence, i,j within the non-repeat plaintext. Since it is non-repeat, it is clear that $i \neq j$.--

Please replace the paragraph beginning at page 89, line 6, with the following rewritten paragraph:

E5

--The gs encryption algorithm, Egs: Egs, or simply, E, will operate on m, a four-symbol non-repeat expression of the plaintext. (That is a list in which a symbol is never followed by the same symbol). To execute the operation, E will require additional input: (1) a gs key, (map), and (2), an initial pixel-state on it. That initial state will have to be of the color of the first symbol in m.--

REMARKS

The Supplemental Office Action dated October 17, 2002, has been carefully considered. In response thereto, the present application has been amended in a manner which is believed to place it in condition for allowance. Accordingly, reconsideration and withdrawal of all outstanding grounds of rejection and issuance of a Notice of Allowance are earnestly solicited in view of the foregoing amendments and the following remarks.

The changes made are indicated in the attached pages labeled "**VERSION WITH MARKINGS TO SHOW CHANGES MADE**."

In the Supplemental Action, the Examiner requested that the objections to the Specification raised in the Office Action dated April 23, 2002, be addressed by the Applicant. The Applicant submits that the changes suggested by the Examiner have been entered in the Specification. Therefore, the objections to the Specification should be withdrawn.

Paragraph 34 of the April 23 Office Action reads: "With regards to the applicant's assertion that Nakamura by "creating a set of vertices" and by "defining a relationship for pairs of vertices in the set of vertices" is address (33) and using this to create an encryption key." The Applicant requested clarification because what the Examiner wrote does not constitute a complete sentence. While the Applicant does not comprehend the meaning of that paragraph, it seems that the Examiner contended that Nakamura meets the

limitations of claim 17 because Nakamura uses an address (33) to create an encryption key. Because "using address to create an encryption key" does not amount to creating an encryption key by (1) creating a set of vertices, and (2) defining a relationship for pairs of vertices, Nakamura does not teach or suggest all the limitations of claim 17.

The Examiner enclosed along with the Supplemental Office Action a reference that was cited, but not provided to the Applicant, in rejecting the claims. Specifically, in the Office Action of April 23 claims 17-23 were rejected under 35 U.S.C. §102(b) as being anticipated by the Krishnamurthy reference. The Examiner stated that "Krishnamurthy disclose a number of methods for transforming plaintext into a secure form which can be communicated over insure links such that the secure form can be transformed back into the original plaintext, without any intervening party being able to perform such transformations. Krishnamurthy discloses a number of transformation techniques including base conversion, modular arithmentic (groups, rings and fields), logic (Boolean logic), matrix, topological, functional and hierarchical (see page 753). Krishnamurthy discloses (page 760) methods for creating ciphers using addressing of arrays (after encoding) such that the encoded symbols (the first symbol set) are associated with an address-relational path (map) which is carried in the form of a description of heads (vertex), links (vectors) and ends of list (a designated point in the array the second symbol set)."

According to the Examiner, the Krishnamurthy reference discloses structures (vertices, vector) that amount to no more than individual elements that are not interrelated in the manner described in claims 17-23. That is, the Examiner alleges that Krishnamurthy discloses "methods for creating ciphers" by using vertices and vectors, but does not even point out where in the reference the exact method of claims 17-23 is to be found. The Krishnamurthy reference is a 1969 review of ciphers. It has nothing to do, and it does not mention the specific steps for creating a cipher as described in claims 17-23. For example, the Krishnamurthy refernce fails to disclose an encryption key created by (1) creating a set of vertices, each vertex in the set of vertices being associated with a symbol from said first set of symbols; and (2) defining a relationship for pairs of vertices in the set of vertices, wherein for each pair the relationship is expressed by a vector originating in one vertex and

E

terminating in another vertex, the vector being associated with a symbol from a second set of symbols comprised of S_0 symbols.

For the foregoing reasons, Applicant respectfully submits that Krishnamurthy does not disclose each and every element of claims 17-23, and therefore, the rejection should be withdrawn.

As to the application of Krishnamurthy in the obviousness rejection of claims 24-33, Applicant submits that the reference does not disclose the steps recited in those claims, and therefore, fails to cure the deficiencies of Backal.

For the reasons set forth above, Applicants respectfully submit that all outstanding grounds of rejection are overcome and respectfully request issuance of a Notice of Allowance.

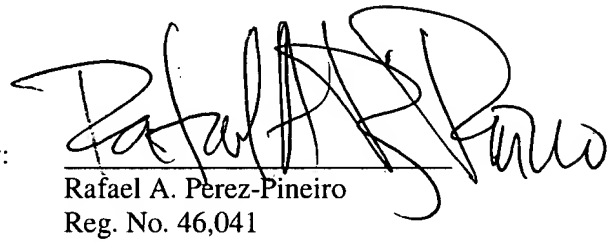
In the event that there are any questions relating to the present Amendment or to the application in general, it would be appreciated if the Examiner would telephone the undersigned at the telephone number set forth below concerning any such questions so that prosecution of the present application may be expedited.

Please charge any shortage of fees, or credit any overpayment thereof, to BLANK ROME COMISKY

& McCAULEY LLP, Deposit Account No. 23-2185 (113149-00101). A copy of the changes are attached hereto beginning on a separate sheet.

Respectfully submitted,

Gideon Samid

By: 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Please replace the paragraph beginning at page 9 line 18 with the following rewritten paragraph:

--Using any polyalphabetic encryption method or close variety thereof, E, for which the corresponding decryption algorithm is D; if plaintext M turned into cipher C by employing encryption keys K=Ke=Kd, then it is highly unlikely that there is another key ~~K'<>K~~ K'≠K such that by decrypting C with K' it would yield plaintext M' ~~<>M~~ ≠M, in such a way that M' would be interpreted as the original message, M.--

Please replace line 1 beginning at page 21 with the following:

--~~ed = 1(mod (n))~~ ed = 1 mod φ (n)--

Please replace the paragraph beginning at page 41 line 15, with the following rewritten paragraph:

--The non-repeat plaintext may be interpreted as a sequence of letter pairs: i,j, such that ~~i<>j~~ i≠j. Starting at any element i on the universal letter space, it would be possible to bridge over directly to an element of color j, or bridge over to a j-element through a series of k elements of color i. So much is assured by the full-access rule.--

Please replace the paragraph beginning at page 70 line 4, with the following rewritten paragraph:

--The full visibility algorithm: Consider the sequence, i,j within the non-repeat plaintext. Since it is non-repeat, it is clear that ~~i<>j~~ i≠j.--

Please replace the paragraph beginning at page 89, line 6, with the following rewritten paragraph:

--The gs encryption algorithm, Egs: Egs, or simply, E, will operate on m, a four-symbol non-repeat expression of the plaintext. (That is a list in which a symbol is never followed by the same symbol). To execute the operation, E will require additional input: ~~(1)a~~ (1) a gs key, (map), and (2), an initial pixel-state on it. That initial state will have to be of the color of the first symbol in m.--

E